

PATENT COOPERATION TREATY

REC'D 27 SEP 2005

WIPO

PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/000038

International filing date (day/month/year)
03.01.2005

Priority date (day/month/year)
03.01.2004

International Patent Classification (IPC) or both national classification and IPC
B29C44/12, B29C45/16, B29C45/14

Applicant
JOHNSON CONTROLS TECHNOLOGY COMPANY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Brunswick, A

Telephone No. +49 89 2399-2127



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/000038

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/000038

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 21

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the whole application or for said claims Nos. 21

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/000038

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3
 - ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
 - ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-20

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-20
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2005/000038

(1) Reference is made to the following documents:

- D1: PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 08, 30 June 1998
-& JP 10 076544 A (KANSEI CORP), 24 March 1998
- D2: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 11, 3 January 2001
-& JP 2000 210978 A (NISHIKAWA KASEI CO LTD), 2 August 2000
- D3: PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997
-& JP 09 076256 A (TOYOTA MOTOR CORP), 25 March 1997 (1997-03-25)
- D4: US 2002/125734 A1 (POKORZYNSKI TONY M ET AL) 12 September 2002
- D5: PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 13, 30 November 1998
-& JP 10 203287 A (TOYOTA MOTOR CORP), 4 August 1998 (1998-08-04)
- D6: PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 14, 31 December
-& JP 10 250519 A (TOYOTA MOTOR CORP), 22 September 1998 (1998-09-22)
- D7: US 2003/012837 A1 (SIANO DANTE) 16 January 2003
- D8: US 5 372 491 A (FRITSCH ET AL) 13 December 1994

Re Item IV.

(2) Lack of unity

i) The present application relates to several inventions or groups of inventions which are not so linked as to form a single general inventive concept and therefore do not comply with the requirements of PCT Rule 13.1, the different inventions being the following:

Invention 1 - Claims 1-20:

Foam-in-place of a cushioned region onto a multi-component substrate

Invention 2 - Claim 21:

Overmold an inserted cushion layer by multi-component molding

Claim 1 relates to a method for forming a component for a vehicle with the following features:

- F1.1: forming a substrate in a mold by injecting a first resin into a first cavity,
F1.2: reconfiguring a portion of the mold to form a second cavity, and injecting a second

resin into a second cavity;

F1.3: providing a flexible member adjacent at least a portion of the substrate to form a cavity between the substrate and the flexible member;

F1.4: coupling at least a portion of the flexible member to the substrate;

F1.5: and introducing a material into the cavity

F1.6: after securing at least a portion of the flexible member to the substrate;

F1.7: wherein the flexible member and the material introduced into the cavity form a cushioned region for the vehicle component

Claim 21 relates to a trim panel for use in a vehicle, the trim panel comprising:

F21.1: a one-piece molded member having a first substrate portion made of first resin,

F21.2: a second substrate portion made of a second resin,

F21.3: and a cushioned layer at least partially covering one of the first substrate portion and the second substrate portion,

F21.4: wherein the one-piece molded member is formed by a process wherein the cushioned layer is positioned into at least one of a first cavity and a second cavity,

F21.5: the first resin is injected into the first cavity,

F21.6: a retractor member is moved to define a second cavity,

F21.7: and the second resin is injected into the second cavity.

ii) The document D1 solves the same problem as the present application, namely to provide a multi-material molded vehicle component with a cushioned region, Fig. 6A/B, 10C, paragraphs 1-4, 58, see also references given below. The document D1 discloses the features F1.1 to F1.3, F1.5 and F1.7 of claim 1 and the features F21.1 to F21.3 of claim 21, see D1: paragraphs 30-32, paragraphs 34-43, paragraph 58, Fig. 6A/B, Fig. 7A-7C and Fig. 10C, abstract. Thus, these features cannot be considered to be special technical features.

iii) The remaining features of the two inventions solve two different problems by means of different potentially special technical features and the general problem cannot be considered as constituting a single general inventive concept between the two inventions.

The problem to be solved by the first invention is to fix the flexible member on the substrate for the injection of material into the cavity formed between the substrate and the

flexible member. The features which solve this problem are "coupling at least a portion of the flexible member to the substrate" and "after securing at least a portion of the flexible member to the substrate". The features of the dependent claims relate to the coupling means, material selections and multi-material molding.

The problem to be solved by the second invention is to provide a trim panel with a multi-material overmolded cushion layer. The features which solve this problem are "the cushioned layer is positioned into at least one of a first cavity and a second cavity, the first resin is injected into the first cavity, a retractor member is moved to define a second cavity, and the second resin is injected into the second cavity".

iv) Since the problems to be solved by the two inventions and the features which solve these problems are different, the different technical features cannot be considered to be corresponding special technical features as required by PCT Rule 13.2. Invention 1 relates to a method, where a cushioned region is foamed-in-place onto a multi-material molded substrate. Invention 2 relates to a trim panel (characterized by method steps), where a cushioned layer is overmolded by a multi-material molding method.

Re Item V.

(3) Lack of inventive step, Claim 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3)PCT. The reasons are given below.

Document D1 discloses the following features of claim 1 for a method of forming a door trim panel or an instrument panel with a cushioned region, see (D1: Paragraphs 1-4, paragraphs 30-32, paragraphs 34-43, Fig. 6A/B, Fig. 7A-7C and paragraph 58, Fig. 10C, abstract):

F1.1: forming a substrate in a mold by injecting a first resin into a first cavity,
F1.2: reconfiguring a portion of the mold to form a second cavity, and injecting a second resin into a second cavity;

F1.3: providing a flexible member adjacent at least a portion of the substrate to form a cavity between the substrate and the flexible member;

F1.5: and introducing a material into the cavity

F1.7: wherein the flexible member and the material introduced into the cavity form a cushioned region for the vehicle component

The document D1 does not explicitly disclose the following features of claim 1:

F1.4: coupling at least a portion of the flexible member to the substrate

F1.6: after securing at least a portion of the flexible member to the substrate

The problem to be solved by the present invention may therefore be regarded as "to fix the flexible member for the injection of material into the cavity formed between the substrate and the flexible member".

In view of D3 the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step. Document D3 discloses for a door trim panel or an instrument panel the advantages of coupling and securing the flexible member to the substrate before the foam-in-place step, see D3: abstract, paragraphs 1-4, paragraphs 31, 32, Fig. 6, paragraphs 33-34, Fig. 7, paragraph 49, Fig. 14. Therefore the features disclosed in D1 and D3 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 1 thus cannot be considered inventive (Article 33(3) PCT).

It is further noted to the applicant, that the skilled person would also arrive at the features of claim 1 from a combination of documents D1 and D4, D2 and D3 (or D4), D5 and D3 (or D4), D6 and D3 (or D4), D7 and D3 (or D4), D8 and D3 (or D4) without exercise of any inventive skills in order to solve the problem posed, see the passages cited in the search report for the documents D1 to D8.

(4) Dependent claims 2 to 20

Dependent claims 2 to 20 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1 to D8 and the corresponding passages cited in the search report.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2005/000038

Claims 2 and 20

See for example D1 and D3 to D5, which disclose the features of claim 2. See documents D1 to D8, which disclose the feature of claim 20.

Claims 3, 4 and 7

The materials claimed in claims 3, 4 and 7 are commonly used for foam-in-place processes for applying cushioned regions on injection molded (multi-material) substrates, see D1, D3, D4 and D5.

Claims 5 and 6

See for example D1, D3 and D4 which disclose the features of claims 5 and 6.

Claims 8 to 10 and 11 to 13

See for example D3 which discloses the features of claims 8 to 10. Claims 11 to 13 relate to a combination and slight constructional changes of the solutions disclosed in D3 which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 11 to 13 also lack an inventive step.

Claim 14

See for example documents D2 and D5 to D8, which disclose the features of claim 14.

Claims 15 to 19

The features of claims 15 to 19 are disclosed in documents D1, D2 and D5 to D8. It shall further be noted that the features of claims 15 to 19 merely define the general and basic features of multi-component moulding (which is also referred to as multi-color injection moulding or multi-material injection molding and which comprises per se the use of resins of different colors and materials and combinations thereof).

PATENT COOPERATION TREATY

REC'D 27 SEP 2005

WIPO

PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/000038

International filing date (day/month/year)
03.01.2005

Priority date (day/month/year)
03.01.2004

International Patent Classification (IPC) or both national classification and IPC
B29C44/12, B29C45/16, B29C45/14

Applicant
JOHNSON CONTROLS TECHNOLOGY COMPANY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Brunswick, A

Telephone No. +49 89 2399-2127



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/000038

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/000038

**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial
applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 21

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the whole application or for said claims Nos. 21

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/000038

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-20

Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-20
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2005/000038

(1) Reference is made to the following documents:

- D1: PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 08, 30 June 1998
-& JP 10 076544 A (KANSEI CORP), 24 March 1998
- D2: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 11, 3 January 2001
-& JP 2000 210978 A (NISHIKAWA KASEI CO LTD), 2 August 2000
- D3: PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997
-& JP 09 076256 A (TOYOTA MOTOR CORP), 25 March 1997 (1997-03-25)
- D4: US 2002/125734 A1 (POKORZYNSKI TONY M ET AL) 12 September 2002
- D5: PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 13, 30 November 1998
-& JP 10 203287 A (TOYOTA MOTOR CORP), 4 August 1998 (1998-08-04)
- D6: PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 14, 31 December
-& JP 10 250519 A (TOYOTA MOTOR CORP), 22 September 1998 (1998-09-22)
- D7: US 2003/012837 A1 (SIANO DANTE) 16 January 2003
- D8: US 5 372 491 A (FRITSCH ET AL) 13 December 1994

Re Item IV.

(2) Lack of unity

i) The present application relates to several inventions or groups of inventions which are not so linked as to form a single general inventive concept and therefore do not comply with the requirements of PCT Rule 13.1, the different inventions being the following:

Invention 1 - Claims 1-20:

Foam-in-place of a cushioned region onto a multi-component substrate

Invention 2 - Claim 21:

Overmold an inserted cushion layer by multi-component molding

Claim 1 relates to a method for forming a component for a vehicle with the following features:

- F1.1: forming a substrate in a mold by injecting a first resin into a first cavity,
F1.2: reconfiguring a portion of the mold to form a second cavity, and injecting a second

resin into a second cavity;

F1.3: providing a flexible member adjacent at least a portion of the substrate to form a cavity between the substrate and the flexible member;

F1.4: coupling at least a portion of the flexible member to the substrate;

F1.5: and introducing a material into the cavity

F1.6: after securing at least a portion of the flexible member to the substrate;

F1.7: wherein the flexible member and the material introduced into the cavity form a cushioned region for the vehicle component

Claim 21 relates to a trim panel for use in a vehicle, the trim panel comprising:

F21.1: a one-piece molded member having a first substrate portion made of first resin,

F21.2: a second substrate portion made of a second resin,

F21.3: and a cushioned layer at least partially covering one of the first substrate portion and the second substrate portion,

F21.4: wherein the one-piece molded member is formed by a process wherein the cushioned layer is positioned into at least one of a first cavity and a second cavity,

F21.5: the first resin is injected into the first cavity,

F21.6: a retractor member is moved to define a second cavity,

F21.7: and the second resin is injected into the second cavity.

ii) The document D1 solves the same problem as the present application, namely to provide a multi-material molded vehicle component with a cushioned region, Fig. 6A/B, 10C, paragraphs 1-4, 58, see also references given below. The document D1 discloses the features F1.1 to F1.3, F1.5 and F1.7 of claim 1 and the features F21.1 to F21.3 of claim 21, see D1: paragraphs 30-32, paragraphs 34-43, paragraph 58, Fig. 6A/B, Fig. 7A-7C and Fig. 10C, abstract. Thus, these features cannot be considered to be special technical features.

iii) The remaining features of the two inventions solve two different problems by means of different potentially special technical features and the general problem cannot be considered as constituting a single general inventive concept between the two inventions.

The problem to be solved by the first invention is to fix the flexible member on the substrate for the injection of material into the cavity formed between the substrate and the

flexible member. The features which solve this problem are "coupling at least a portion of the flexible member to the substrate" and "after securing at least a portion of the flexible member to the substrate". The features of the dependent claims relate to the coupling means, material selections and multi-material molding.

The problem to be solved by the second invention is to provide a trim panel with a multi-material overmolded cushion layer. The features which solve this problem are "the cushioned layer is positioned into at least one of a first cavity and a second cavity, the first resin is injected into the first cavity, a retractor member is moved to define a second cavity, and the second resin is injected into the second cavity".

iv) Since the problems to be solved by the two inventions and the features which solve these problems are different, the different technical features cannot be considered to be corresponding special technical features as required by PCT Rule 13.2. Invention 1 relates to a method, where a cushioned region is foamed-in-place onto a multi-material molded substrate. Invention 2 relates to a trim panel (characterized by method steps), where a cushioned layer is overmolded by a multi-material molding method.

Re Item V.

(3) Lack of inventive step, Claim 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3)PCT. The reasons are given below.

Document D1 discloses the following features of claim 1 for a method of forming a door trim panel or an instrument panel with a cushioned region, see (D1: Paragraphs 1-4, paragraphs 30-32, paragraphs 34-43, Fig. 6A/B, Fig. 7A-7C and paragraph 58, Fig. 10C, abstract):

- F1.1: forming a substrate in a mold by injecting a first resin into a first cavity,
- F1.2: reconfiguring a portion of the mold to form a second cavity, and injecting a second resin into a second cavity;

F1.3: providing a flexible member adjacent at least a portion of the substrate to form a cavity between the substrate and the flexible member;

F1.5: and introducing a material into the cavity

F1.7: wherein the flexible member and the material introduced into the cavity form a cushioned region for the vehicle component

The document D1 does not explicitly disclose the following features of claim 1:

F1.4: coupling at least a portion of the flexible member to the substrate

F1.6: after securing at least a portion of the flexible member to the substrate

The problem to be solved by the present invention may therefore be regarded as "to fix the flexible member for the injection of material into the cavity formed between the substrate and the flexible member".

In view of D3 the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step. Document D3 discloses for a door trim panel or an instrument panel the advantages of coupling and securing the flexible member to the substrate before the foam-in-place step, see D3: abstract, paragraphs 1-4, paragraphs 31, 32, Fig. 6, paragraphs 33-34, Fig. 7, paragraph 49, Fig. 14. Therefore the features disclosed in D1 and D3 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 1 thus cannot be considered inventive (Article 33(3) PCT).

It is further noted to the applicant, that the skilled person would also arrive at the features of claim 1 from a combination of documents D1 and D4, D2 and D3 (or D4), D5 and D3 (or D4), D6 and D3 (or D4), D7 and D3 (or D4), D8 and D3 (or D4) without exercise of any inventive skills in order to solve the problem posed, see the passages cited in the search report for the documents D1 to D8.

(4) Dependent claims 2 to 20

Dependent claims 2 to 20 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1 to D8 and the corresponding passages cited in the search report.

Claims 2 and 20

See for example D1 and D3 to D5, which disclose the features of claim 2. See documents D1 to D8, which disclose the feature of claim 20.

Claims 3, 4 and 7

The materials claimed in claims 3, 4 and 7 are commonly used for foam-in-place processes for applying cushioned regions on injection molded (multi-material) substrates, see D1, D3, D4 and D5.

Claims 5 and 6

See for example D1, D3 and D4 which disclose the features of claims 5 and 6.

Claims 8 to 10 and 11 to 13

See for example D3 which discloses the features of claims 8 to 10. Claims 11 to 13 relate to a combination and slight constructional changes of the solutions disclosed in D3 which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 11 to 13 also lack an inventive step.

Claim 14

See for example documents D2 and D5 to D8, which disclose the features of claim 14.

Claims 15 to 19

The features of claims 15 to 19 are disclosed in documents D1, D2 and D5 to D8. It shall further be noted that the features of claims 15 to 19 merely define the general and basic features of multi-component moulding (which is also referred to as multi-color injection moulding or multi-material injection molding and which comprises per se the use of resins of different colors and materials and combinations thereof).